

PLANAR GAP PRE-FILL PROCESS FOR READ HEADS

ABSTRACT

A magnetoresistive (MR) read head is disclosed including a shield layer with a recessed portion and a protruding portion defined by the recessed portion. Also included is an MR sensor located in vertical alignment with the protruding portion of the shield layer. Further provided is at least one gap layer situated above and below the MR sensor. At least one of such gap layers is positioned in the recessed portion of the shield layer. By this design, a combined thickness of the gap layers is thinner adjacent to the MR sensor and the protruding portion of the shield layer, while being thicker adjacent to the recessed portion of the shield layer. As such, optimum insulation is provided while maintaining planar gap layer surfaces to avoid the detrimental ramifications of reflective notching and the swing curve effect.